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From: Commandant
To: Distribution

Subj: POLICY ON ALTERNATIVE FIRE DETECTION SYSTEMS FOR SUBCHAPTER T VESSELS UTILIZING DC POWER

1. Several existing vessels constructed of wood or fiber reinforced plastic, which utilize 24 and 12 V DC power, are having difficulties attempting to comply with 46 CFR 181.115(b). This cite requires compliance, of certain existing vessels, with 46 CFR 181.400 on or before March 11, 1999. In particular, 46 CFR 181.400(c), which also applies to a new vessel, requires specific spaces on board, with exceptions, to be equipped with a fire detecting system of an approved type that is installed in accordance with 46 CFR Subpart 76.27. The phrase "approved type" refers to fire-protection systems meeting the requirements contained in 46 CFR Subpart 161.002. Current Coast Guard approved fire detection systems under this Subpart are not designed to function with a DC power supply.

2. While many of the systems use DC power in the distribution lines to the detectors it is the control unit which requires an AC power supply. A survey of the fire protection industry has revealed no economically viable control unit, which operates off of a DC power supply, that is suitable for the marine environment. As an interim measure, systems without a control unit may be installed on new and existing vessels as an equivalency under 46 CFR 175.540(a) if they meet the contents of this letter.

3. The general intent of 46 CFR Subpart 161.002 is to provide an automatic fire detection system consisting of normal and emergency power supplies, heat and/or smoke detectors, and distinctive audible and visual alarms. To accomplish this the system shall at a minimum, contain:

a. Components which are listed by one of the following laboratories as meeting the applicable standard for that component:

(1) Underwriters Laboratories Inc.(UL),
(2) Factory Mutual (FM), or
(3) Loss Prevention Council (LPC).

If components were tested by Det Norske Veritas Classification AS (DnVC), Retlif Testing Laboratories or VdS Schadenverhütung GmbH contact G-MSE-4 to determine their suitability.

b. A dedicated panel at the primary operating station with the following devices installed:

(1) A power-available light to indicate that the fire detection system is energized.

(2) A visible and audible alarm for each fire zone.

(3) A means to silence audible alarms (visible indication should remain energized when audible alarm is silenced).

(4) A circuit fault detector (test switch):

(a) For normally open circuit detectors a switch is necessary for each fire zone. The switch should be connected to the last or farthest (away from the primary operating station alarm devices) detector in the zone to verify the integrity of the wiring between the detectors and the fire alarm devices and for verifying the operation of audible and visual alarms.

(b) For normally closed circuit detectors only one switch is necessary to verify the operation of the audible and visual alarms.

(5) Labels for all switches and indicator lights indicating their function.

c. Arrangements to be energized from two sources of power. If transfer from the primary source to the secondary source is not automatic, a manual means of selecting the available power source should be provided at the primary operating station.

d. An operation, testing, maintenance and information manual maintained on the vessel.

4. This policy will remain in effect until fire detection systems designed to function with a DC power supply have been approved.

G. D. POWERS
By direction

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